Stent deployment refers to the process of placing a stent, a small mesh-like tube, into a narrowed or blocked blood vessel or other body passage to help keep it open. This procedure is commonly used in the treatment of conditions like coronary artery disease, peripheral artery disease, or bile duct obstructions.

Here's a general overview of the process:

1. **Preparation**: The patient is typically given a local anesthetic or sedation, and in some cases, general anesthesia may be used. A catheter (a thin, flexible tube) is inserted into the body through a small incision, usually in the groin or wrist, and guided to the area requiring stenting.

2. **Balloon Angioplasty (if required)**: In some cases, a balloon catheter is used before deploying the stent. The balloon is inflated at the site of the blockage, expanding the vessel and preparing it for stent placement.

3. **Stent Deployment**: The stent is loaded onto a catheter and guided to the blockage or narrowing. Once positioned, the stent is expanded (either by balloon or self-expanding mechanisms) to fit the diameter of the vessel. This action ensures that the stent remains in place and helps restore normal blood flow.

4. **Final Adjustments**: After the stent is deployed, the catheter and balloon (if used) are removed. The stent is now a permanent part of the vessel, and it supports the vessel wall to prevent re-narrowing.

5. **Recovery**: The procedure may be done in a minimally invasive way, allowing for a shorter recovery time compared to traditional surgery. The patient is monitored for any complications, and they may be prescribed medications such as antiplatelets to prevent blood clot formation around the stent.

Stent deployment is widely used in cardiology, vascular surgery, and other specialties to treat blockages, improve blood flow, and prevent further complications.